

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 October 2002 (17.10.2002)

PCT

(10) International Publication Number
WO 02/081754 A1

(51) International Patent Classification⁷: **C12Q 1/70**,
G01N 33/53, C12P 21/06, C07K 16/00, C07H 21/04,
A61K 39/12

J. [US/US]; 4237 Beaver Creek Drive, Fort Collins, CO
80522 (US).

(21) International Application Number: PCT/US02/10764

(74) Agent: **MILLER, Mary, L.**; Needle & Rosenberg, P.C.,
127 Peachtree Street, N.E., Suite 1200, Atlanta, GA 30303-
1811 (US).

(22) International Filing Date: 4 April 2002 (04.04.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/826,115 4 April 2001 (04.04.2001) US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VN, YU, ZA, ZW.

(63) Related by continuation (CON) or continuation-in-part
(CIP) to earlier application:
US 09/826,115 (CIP)
Filed on 4 April 2001 (04.04.2001)

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **THE
GOVERNEMENT OF THE UNITED STATES OF
AMERICA**, as represented by the secretary, DEPART-
MENT OF HEALTH AND HUMAN SERVICES,
CENTERS FOR DISEASE CONTROL AND PRE-
VENTION [US/US]; Technology Transfer Office, 1600
Clifton Road, N.E., MS E-67, Atlanta, GA 30333 (US).

Published:

— with international search report

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **CHANG, Gwong-Jen**,

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: NUCLEIC ACID VACCINES FOR PREVENTION OF FLAVIVIRUS INFECTION

(57) Abstract: The present invention encompasses isolated nucleic acids containing transcriptional units which encode a signal sequence of one flavivirus and an immunogenic flavivirus antigen of a second flavivirus or of a chimeric immunogenic flavivirus antigen comprising sequence from more than one flavivirus. The invention further encompasses a nucleic acid and protein vaccine and the use of the vaccine to immunize a subject against flavivirus infection. The invention also provides antigens encoded by nucleic acids of the invention, antibodies elicited in response to the antigens and use of the antigens and/or antibodies in detecting flavivirus or diagnosing flavivirus infection.

WO 02/081754 A1